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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,437	12/06/2001	F. Murphy Sprinkel JR.	033018-070	7405
7590	03/06/2006			EXAMINER EREZO, DARWIN P
Peter K. Skiff BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, VA 22313-1404			ART UNIT 3731	PAPER NUMBER

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/003,437	SPRINKEL ET AL.
	Examiner Darwin P. Erezo	Art Unit 3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 December 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 26-31 and 38-52 is/are pending in the application.
  - 4a) Of the above claim(s) 38,39,41,47,50 and 51 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 26-31,40,42-46,48,49 and 52 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Species I of the First Set on 12/21/05 is acknowledged. The traversal is persuasive and the requirement for the First set is withdrawn.
2. Applicant's election with traverse of Species III of the Second set is acknowledged but not persuasive. The traversal is on the ground(s) that the search for a specific method of fluid passage would include the search the remainder of the species. This is not persuasive because the search for Species I would not include the bonding of multiple layers or having a nonlinear or tortuous passage. Thus, the search for each species is deemed burdensome.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 38, 39, 41, 47, 50 and 51 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/21/05.
4. This application contains claims that are drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3731

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 26-31, 40, 42-46, 48, 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,656,738 to Vogel et al. and in further view of US 5,142,143 to Fite et al., and in view of US 4,381,233 to Adachi et al.

Vogel teaches a method of manufacturing a fluid vaporizing device comprising: forming a fluid passage in body (Fig. 3A), the fluid passage having an inlet opening and an outlet opening; and providing a tubular heater by depositing a thin resistive film inside the passage (col. 6, lines 41-42), the heater being operable to volatilize fluid in the passage by passing an electrical current through the film. Vogel also teaches conductive contacts **86**.

Vogel is silent with regards to the volumetric capacity of the fluid passage (preconcentrator tube).

However, as recited in the applicant's remarks dated 7/7/05, Fite teaches preconcentrator tubes having an inner diameter of 1.5 mm with a length of 37 mm. Applicant noted that the resulting volume of the tubes would be 260 ml. However, this is incorrect. The following equations are provided to calculate a volume (capacity) of a cylinder:

$$\text{Volume} = \text{Area of base (mm}^2\text{)} \times \text{Height (mm)}$$

$$\text{Area} = \pi \times \text{Radius}^2$$

Using the dimensions provided:

$$\text{Radius} = \frac{1}{2} \text{ diameter} = \frac{1}{2} (1.5\text{mm}) = .75\text{mm}$$

Height of the tube = 37 mm

Calculation for Area:

$$\text{Area} = \pi \times (0.75 \text{ mm})^2 = 1.77 \text{ mm}^2$$

Calculation for Volume:

$$\text{Volume} = 1.77 \text{ mm}^2 \times 37 \text{ mm} = 65.38 \text{ mm}^3$$

Converting cubic mm ( $\text{mm}^3$ ) to mL:

$$1 \text{ mL} = 1 \text{ cc} = 10 \times 10 \times 10 \text{ mm}.$$

$$1 \text{ mL} = 1000 \text{ mm}^3$$

Therefore :

$$X = \frac{(1 \text{ mL})}{(1000 \text{ mm}^3)} \times (65.38 \text{ mm}^3) = 0.065 \text{ mL}$$

As clearly shown above, Fite teaches a concentrator tube having a volume that falls within the range recited by the applicant. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well known concentrator tubes, including the tubes of Fite, since using a well known concentrator tube in the device of Vogel would be well within the level of one of ordinary skill in the art. Furthermore, it was the applicant that provided the Fite reference to show what was relevant in the art.

Vogel also teaches that the heater is formed from an ITO material, which is a metal solution of Indium Tin Oxide that is coated/introduced into the tube. However, Vogel is silent with regards to the specifics on how the ITO is coated. However, it is well known in the art for to form an ITO layer by resistance heating evaporation (as

evidenced by Adachi; col. 6, lines 56-66). Thus, it would be obvious to one of ordinary skill in the art at the time the invention was made to form an ITO layer with any well known methods since choosing a specific method would be a mere design choice. The applicant has not provided any criticality to any specific method of forming a resistive heater, especially since various species of the method is provided.

Regarding the method of forming a fluid passage, it is noted that Vogel teaches a preconcentrator tube having a similar area to that of the recited claims. Thus, it is viewed as a capillary sized tube.

Vogel/Fite discloses the claimed invention except for the fluid passage having a transverse cross-sectional area of about  $2 \times 10^{-2}$  to  $8 \times 10^{-1} \text{ mm}^2$ . However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the recited range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It is also noted that preconcentrator tube could be used separately from the device of Vogel to vaporize medicament and be used as an inhaler.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 26-31, 40, 42-46, 48, 49 and 52 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darwin P. Erezo whose telephone number is (571) 272-4695. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan T. Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER

  
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